What is claimed is:

1. A method of reprogramming a keratinocyte comprising treating a keratinocyte with a first agent, which promotes the demethylation of a nucleic acid, and a second agent, which inhibits the deacetylation of a histone protein, such that a reprogrammed cell is produced upon treating the keratinocyte with the first agent and the second agent, wherein the reprogrammed cell expresses a telomerase gene product and is capable of expressing a gene product which is not expressed by a keratinocyte.

2. The method of claim 1 wherein the first agent is a 5-aza-2'-deoxycytidine.

3. The method of claim 1 wherein the second agent is a trichostatin A.

4. The method of claim 1 wherein the keratinocyte is a human keratinocyte.

5. The method of claim 1 wherein the keratinocyte is treated with a third agent, which promotes the arrest of cells in metaphase.

6. The method of claim 5 wherein the third agent is a Tat-cyclin B.

7. The method of claim 6 wherein the gene product which is not expressed by a keratinocyte is selected from the group consisting of a neurofilament, a cardiac actin and an alpha-antitrypsin.

8. The method of claim 6 wherein the gene product which is not expressed by a keratinocyte is a cardiac actin.

9. The method of claim 5 wherein the keratinocyte is treated with a fourth agent, which promotes cell differentiation.

10. The method of claim 9 wherein the fourth agent is a retinoic acid.

11. The method of claim 10 wherein the reprogrammed cell expresses a gene product selected from the group consisting of a neurofilament, a cardiac actin and an alpha-antitrypsin.

12. The method of claim 10 wherein the reprogrammed cell expresses a cardiac actin gene product.

13. An in vitro derived cell which is capable of expressing a gene product which is not expressed by a naturally occurring keratinocyte, wherein the in vitro derived cell is produced by treating a keratinocyte in vitro with a first agent, which promotes the demethylation of a nucleic acid, a second agent, which inhibits the deacetylation of a histone protein, and a third agent, which promotes the arrest of cells in metaphase.

14. The in vitro derived cell of claim 13 wherein the first agent is a 5-aza-2'-deoxycytidine, the second agent is a trichostatin A and the third agent is a Tat-cyclin B.

15. The in vitro derived cell of claim 14 wherein the gene product which is not expressed by a naturally occurring keratinocyte is selected from the group consisting of neurofilament, cardiac actin and alpha-antitrypsin.

16. An in vitro derived cell which expresses a gene product, which is not expressed by a naturally occurring keratinocyte, wherein the in vitro derived cell is produced by treating a keratinocyte in vitro with a first agent, which promotes the demethylation of a nucleic acid, a second agent, which inhibits the deacetylation of a histone protein, a third agent, which promotes the arrest of cells in metaphase, and a fourth agent, which promotes cell differentiation.

17. The in vitro derived cell of claim 16 wherein the first agent is a 5-aza-2'-deoxycytidine, the second agent is a trichostatin A, the third agent is a Tat-cyclin B and the fourth agent is a retinoic acid.

18. The in vitro derived cell of claim 16 wherein the gene product, which is not expressed by a naturally occurring keratinocyte, is selected from the group consisting of neurofilament, cardiac actin and alpha-antitrypsin.

19. The in vitro derived cell of claim 16 wherein the gene product, which is not expressed by a naturally occurring keratinocyte, is a cardiac actin.